

A Review of The Development of Porous Biomedical Implants Through Additive Manufacturing

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Nowadays, with the development of additive manufacturing techniques, new generation implants used in biomedical applications are designed in accordance with the bone structure in the cellular structure. The cellular structures in the implants designed with additive manufacturing methods allow bone and tissue formation, allowing the implant to hold on to the bone more tightly and shortening the healing time. In addition, the design of the implant in accordance with the bone cell structure increases the compatibility of the implant with the body and prevents extra surgeries. In addition to cell type, heat treatments and coating procedures applied to implant materials produced by additive manufacturing in order to increase mechanical and biocompatibility have an important place in the literature. Among these processes, especially heat treatment cycles in which short-term aging processes are applied and hydroxyapatite coating processes have increased osseointegration.

Keywords: Additive manufacturing, grain structure, biometric material, heat treatment, coating

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